

**Work Order ID 72292**

Thursday, July 21, 2011 10:03:15 AM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 7/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

*H*Date: *11-07-21*

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D2580-041

Rev.D DEO-D1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile &amp; type labels per PPP D205-634-041 CHG002

*N/A*

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

*BG 11/08/22**BE 11/08/22**SAD 11-08-22*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
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| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

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Page 2

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

0.00



Skidtubes

Memo

0.00

Skidtubes

1- Deburr ends and remove bending marks

2- Prepare tube for welding as per QSI 004



11/08/23

130

0.00



QC

Memo

0.00

Quality Control

QC5- Inspect part completeness to step on W/O



11-8-22

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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|      |      |                    |    |      |     |                                     |                          |

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|            |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
| 2020-08-11 | 1    |                                  |                             |                                 |                |                           |                       |                          |
|            |      |                                  |                             |                                 |                |                           |                       |                          |
|            |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 72292**

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Page 3

Item ID: D205-634-041

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Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 7/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

0.00



Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI004  
A/R□□□ Aluminum Rod

m115778 BE 11/08/23

2-Grind welds on step as per Dwg D2580

BE 11/08/25

3-Weld spacers as per dwg D2580

BE 11/08/23 m115778

3- \*\*\* N/A\*\*\*\* Insert D4202-1 spacer, swage as per QSI002 and trim/ grind  
flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2  
x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64",  
adjust stopper not to hit web. Debur

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

BE 11/08/25

BB 11/08/24

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

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|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
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|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



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Page 5

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Start Date: 7/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

180

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Powder Coating

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

3:15  
320 OF  
3:45

XO M-11/08/29

190

QC3- Inspect Part Finish

0.00



QC

Quality Control

Memo

0.00

1 6 M 11/08/31

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 72292**

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Page 6

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Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 7/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

200

0.00



HandFinish

Hand Finishing

Memo

0.00

1-Install inserts &amp; wearplates &amp; Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R ☐☐☐ Sikaflex-291 ☐ 11118393

Sikaflex expire date: 12/05

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step &amp; Aft Cap with Sikaflex. Clean excess adhesive

A/R ☐☐☐ Sikaflex-291 ☐ 11118393

Sikaflex expire date: 12/05

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: 11118313

1 of 24 u/08/31

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 72292**

Thursday, July 21, 2011 10:03:16 AM



Page 7

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Revision ID:

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Start Date: 7/21/2011 Start Qty: 1.00



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Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

210



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

0.00

8 ulos/31

Memo

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

220



Packaging

Packaging

Packaging

0.00

0.00

AP  
372419

Memo

Identify and pack for shipping as per PPPD205-634-041

Location: \_\_\_\_\_

PPP Rev: \_\_\_\_\_

230



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

0.00

Memo

11/28/11  
11/9/11  
mf 11-09-07

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

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|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

Thursday, July 21, 2011 10:03:22 AM

Page 1

Work Order ID: 72292

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 7/21/2011

Required Date: 8/10/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30  
KJ IPP Rev P 10.02.19  
per PAR09-043 EC verified by:DD  
IPP Rev. O 06.02.28 Added paperwork EC  
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q  
10.12.01 as per chg003 DD verf:EC

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D4202-1 <i>D2579</i>            |                        | Manufactured  | No          |                     |                  | 140             | Each               | 443.0000       | 20          | 20           |               |                |        |



Spacer

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| LG002    | 443     |          |
| 66929    | 106     |          |
| 67129    | 196     |          |
| 67308    | 1       |          |
| 67430    | 140     |          |

*BE 11/08/23*  
*B 72672 x20*

|         |              |    |  |  |     |      |        |   |   |  |  |  |  |
|---------|--------------|----|--|--|-----|------|--------|---|---|--|--|--|--|
| D2580-1 | Manufactured | No |  |  | 110 | Each | 4.0000 | 1 | 1 |  |  |  |  |
|---------|--------------|----|--|--|-----|------|--------|---|---|--|--|--|--|



205 Skidtube bent detail

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| LG       | 4       |          |
| 71014    | 2       |          |
| 71784    | 2       |          |

*BE 11/08/22*  
*B 72840 x1*

|         |              |    |  |  |     |      |         |   |   |  |  |  |  |
|---------|--------------|----|--|--|-----|------|---------|---|---|--|--|--|--|
| D2576-3 | Manufactured | No |  |  | 140 | Each | 44.0000 | 1 | 1 |  |  |  |  |
|---------|--------------|----|--|--|-----|------|---------|---|---|--|--|--|--|



Step (maching detail)

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| LG       | 44      |          |
| 66156    | 44      |          |

*BE 11/08/23*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Picklist Print

Thursday, July 21, 2011 10:03:22 AM

Work Order ID: 72292

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 7/21/2011

Required Date: 8/10/2011

Start Qty: 1.00

Required Qty: 1.00

D2855

Manufactured No

200

Each

37.0000

1

1



Cap



u 1108131

Location

Loc Qty

Loc Code

FP007

37

53791

2

65519

2

~~65560~~

33

x1

AN3-5A

Purchased

No

200

Each

1,051.000

2

2



Bolt



u 1108131

Location

Loc Qty

Loc Code

ST350

1051

115371

275

117423

776

x2

AN960JD10L

NAS1149D0332J

Purchased

No

200

Each

0.0000

2

2



Washer

1117087



(x2) u 1108131

ALS7-1032-130

Purchased

No

200

Each

899.0000

50

50



Insert



u 1108131

Location

Loc Qty

Loc Code

ST282

899

117717

899

1118237

x50

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

Thursday, July 21, 2011 10:03:23 AM

Work Order ID: 72292

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 7/21/2011

Required Date: 8/10/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No 200 Each 1,452.000 50 50



BOLT



Handwritten: 1108131

Location

Loc Qty

Loc Code

ST350

1452

117313

2

Handwritten: 1118628

Handwritten: X50

117688

388

117795

500

117872

22

118012

500

118112

40

AN960C10L NAS1149C0332 Purchased No

R



washer

D3566-13

Manufactured No

200 Each 0.0000 50 50



Gasket

Handwritten: 1118354



Handwritten: X50 1108131

Location

Loc Qty

Loc Code

FP

18

69281

18

Handwritten: B72149

Handwritten: X1

FP014

1

68341

1

D3566-5 Manufactured No

200 Each 18.0000 1 1



Gasket



Handwritten: 1108131

Location

Loc Qty

Loc Code

FP015

18

68961

6

Handwritten: B72849

Handwritten: X1

71601

12

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

Thursday, July 21, 2011 10:03:23 AM

Work Order ID: 72292

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 7/21/2011

Required Date: 8/10/2011

Start Qty: 1.00

Required Qty: 1.00

D3566-1

Manufactured No

200 Each

28.0000 2 2



Gasket



11/08/13

Location

Loc Qty

Loc Code

FP011

26

B72848

x2

70769

14

71580

12

FP015

2

68924

2

D3564-11

Manufactured No

200 Each

12.0000 1 1



Wearshoe



11/08/13

Location

Loc Qty

Loc Code

FP019

12

B72207

x1

67591

12

D3564-13

Manufactured No

200 Each

20.0000 1 1



Wearshoe



11/08/13

Location

Loc Qty

Loc Code

FP016

9

69280

9

FP017

11

71594

11

D3564-9

Manufactured No

200 Each

14.0000 1 1



Wearshoe



11/08/13

Location

Loc Qty

Loc Code

FP019

14

B72208

x1

67590

4

69943

10

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

Thursday, July 21, 2011 10:03:23 AM

Work Order ID: 72292



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 7/21/2011

Required Date: 8/10/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-5

Manufactured No

200

Each

17.0000

1

1



Wearshoe



Jul 11/08/13

Location

Loc Qty

Loc Code

FG

2

34806

2

B72164

X1

FP019

15

70864

15

D2594-3

Manufactured No

200

Each

740.0000

16

16



O-Ring, 205 Skidtube



Jul 11/08/13

Location

Loc Qty

Loc Code

FP-A

740

65518

54

66952

686

X16

D2594-1

Manufactured No

200

Each

201.0000

16

16



Plug, 205 Skidtube



Jul 11/08/13

Location

Loc Qty

Loc Code

FP-A

201

42807

28

67441

7

68943

166

B72127

X16

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries





|                            |                             |  |                        |
|----------------------------|-----------------------------|--|------------------------|
| DESIGN <i>[Signature]</i>  | DRAWN BY <i>[Signature]</i> | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA   |                        |
| CHECKED <i>[Signature]</i> | APPROVED <i>[Signature]</i> | DRAWING NO.<br>D2580                                       | REV. D<br>SHEET 1 OF 3 |
| DATE<br>07.02.27           |                             | TITLE<br>205 SKIDTUBE ASSEMBLY                             | SCALE<br>NTS           |
| A                          | 96.09.16                    | NEW ISSUE  |                        |
| B                          | 96.12.02                    | AS MANUFACTURED  |                        |
| C                          | 98.08.26                    | REDRAWN, INCLUDED DEO 9094/9097                            |                        |
| D                          | 07.02.27                    | CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183 |                        |

**RELEASED**  
07.06.28 *[Signature]*

**DEO ATTACHED**  
**UNDER REVIEW**

*P110690*  
RMV *P11.06.30*

| QTY<br>-041 | QTY<br>-045 | Part Number   | Description       |
|-------------|-------------|---|-------------------|
| X           |             | D2580-041   | SKIDTUBE ASSEMBLY |
|             | X           | D2580-045   | SKIDTUBE ASSEMBLY |
| 1           | 1           | D2500-1-190   | EXTRUSION         |
| 1           | 1           | D2576-3   | STEP              |
| 20          | 24          | D2579   | CROSS BOLT SPACER |
| 16          | 16          | D2594-1   | PLUG              |
| 16          | 16          | D2594-3   | O-RING            |
| 1           | 1           | D2596   | 205 WEB           |
| 1           | 1           | D2855   | AFT CAP           |
| 1           | 1           | D3564-5   | WEARSHOE          |
| 1           | 1           | D3564-9   | WEARSHOE          |
| 1           | 1           | D3564-11  | WEARSHOE          |
| 1           | 1           | D3564-13  | WEARSHOE          |
| 2           | 2           | D3566-1   | GASKET            |
| 1           | 1           | D3566-5   | GASKET            |
| 1           | 1           | D3566-13  | GASKET            |
| 50          | 50          | ALS7-1032-130<br>or AKS7-1032-130<br>or AKS4-1032-130<br>or AELS-1032-130 | INSERT            |
| 50          | 50          | AN3C4A  | BOLT              |
| 2           | 2           | AN3-5A  | BOLT              |
| 50          | 50          | AN960C10L   | WASHER            |
| 2           | 2           | AN960JD10L  | WASHER            |

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. *72292*

*P110721*

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

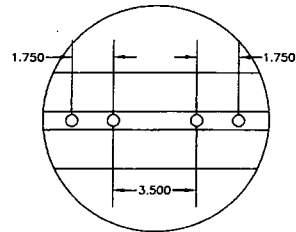
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

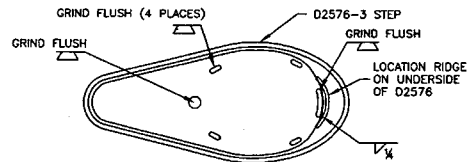
| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**DETAIL A**  
SCALE 5:24



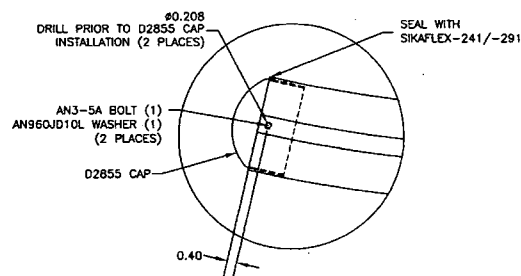
**DETAIL B**  
SCALE 5:24



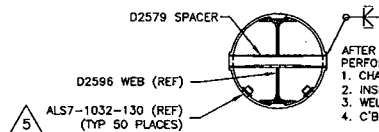
RELEASED  
07-06-28

**DEO ATTACHED**  
RMV 07/10/30

**DETAIL C**  
SCALE 5:24



**SECTION D-D**  
SCALE 5:24

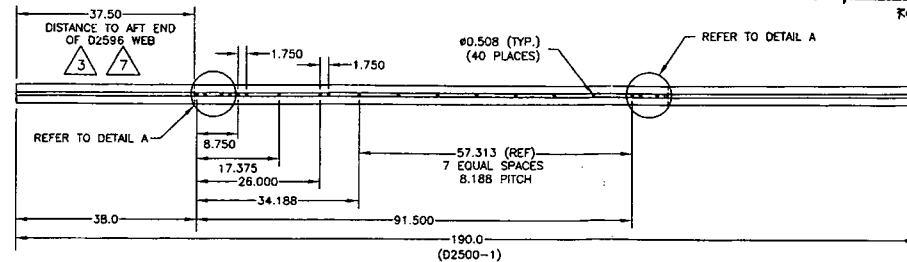


- AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
  2. INSERT D2579 SPACER (20 PLACES)
  3. WELD INTO PLACE AND GRIND FLUSH
  4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

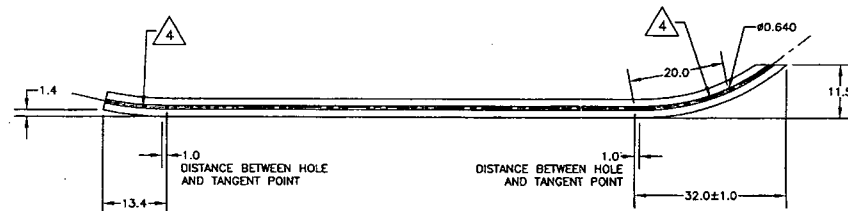
**D2580-041 NOTES**

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART: QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

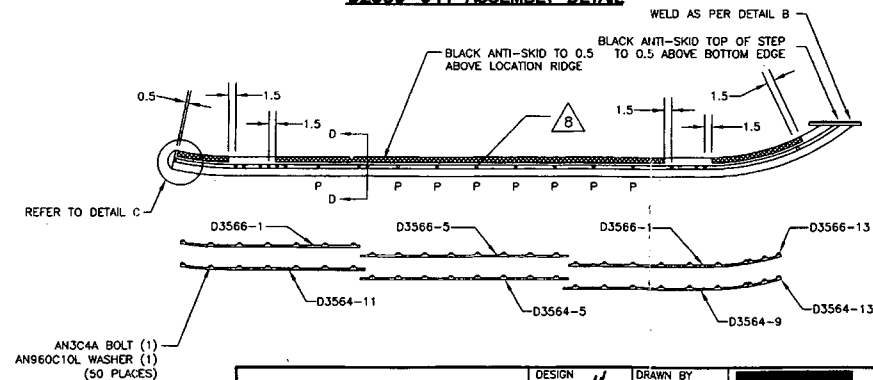
D2580-1 DRILLING DETAIL




D2580-1 BENDING AND CUTTING DETAIL



D2580-041 ASSEMBLY DETAIL



|  |                       |          |   |             |              |
|--|-----------------------|----------|---|-------------|--------------|
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|  | CHECKED               | APPROVED |   | DRAWING NO. | REV. D       |
|  |                       |          |   | D2580       | SHEET 2 OF 3 |
|  | DATE                  | TITLE    |   | SCALE       |              |
| 07.02.27   | 205 SKIDTUBE ASSEMBLY |          | 1:24  |             |              |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
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|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
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|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

NO. 262

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: B71946  
Part number: D205 634 041  
Description: 205  
Welding Process: Tig ☒ Mig ☐  
Base material: Aluminum  
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐  
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐  
Undercut: pass ☒ fail ☐  
Pin holes: pass ☒ fail ☐  
Overlap (cold lap): pass ☒ fail ☐  
Porosity (surface): pass ☒ fail ☐  
Coloration: pass ☒ fail ☐

Qualifier Barclay Elliott Date of Test Coupon 11-08-11  
Welder Barclay Elliott Date of Test Coupon 11-08-11

The above named individual is qualified in accordance with AWS D17.1.2001 to weld